

App. No. 10/648,530
Amendment Dated: December 14, 2004
Reply to Office Action of September 14, 2004

Listing of Claims:

Claim 1 (currently amended): An apparatus for producing a power-on reset signal, comprising:

a current generator circuit that includes a first resistance circuit coupled between a first node and a second node, wherein the current generator circuit is arranged to produce a first current at startup; and

a comparator stage that is coupled to the current generator and includes a second resistance circuit coupled between the first node and a third node, wherein the comparator stage being is arranged to compare a second current to a third current such that the power-on reset signal is actuated when the third current is greater than the second current, wherein at least one of the second current and the third current corresponds to the first current according to a specified ratio such that a point is selectable during startup at which the power-on reset signal is actuated.

Claim 2 (original): The apparatus of Claim 1, further comprising a start-up circuit that is coupled to the current generator, the start-up circuit being arranged to prevent the current generator from producing the first current until a selected supply voltage is reached.

Claim 3 (original): The apparatus of Claim 1, further comprising a gain stage that is coupled to the comparator stage, the gain stage being arranged to provide clean up and gain to the power-on reset signal.

Claim 4 (currently amended): The apparatus of Claim 1, wherein the current generator further comprises:

a current mirror that is coupled to a voltage supply;

a first transistor that is coupled to the current mirror;

a second transistor that is coupled to the current mirror, the first resistance circuit,
and the first transistor; and

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~~a resistance circuit that is coupled to the second transistor~~, wherein the first current is produced when the current mirror is activated and the first current flows through the resistance circuit.

Claim 5 (currently amended): The apparatus of Claim 1, wherein the comparator stage further comprises:

a current mirror that is coupled to a voltage supply;

a first transistor that is coupled to the current mirror;

a second transistor that is coupled to the current mirror, the second resistance circuit, and the first transistor; ~~and~~

~~a resistance circuit that is coupled to the first transistor~~, wherein the second current flows through the second resistance circuit and the third current flows through the second transistor.

Claim 6 (currently amended): The apparatus of Claim 1, wherein the second current is substantially equal to the first current multiplied by $1/N$, wherein N is a scaling factor corresponding to a ratio of sizes between $[[a]]$ the first resistance circuit that is included in the current generator and $[[a]]$ the second resistance circuit that is included in the comparator stage.

Claim 7 (original): The apparatus of Claim 6, wherein the comparator stage is further arranged such that selecting the scaling factor results in a selection of the point during startup at which the power-on reset signal is actuated.

Claim 8 (currently amended): The apparatus of Claim 1, wherein the specified ratio for selecting a point during startup at which the power-on reset signal is actuated is dependent on a ratio sizes for the first and second transistors that are included in the current generator and the comparator stage.

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Claim 9 (currently amended): A method, comprising:

producing a first current at startup, wherein the first current flows across a first resistance circuit that is coupled between a first node and a second node;

producing a second current at startup, wherein the second current flows across a second resistance circuit that is coupled between the first node and a third node and the second current corresponds to the first current according to a specified ratio;

producing a third current at startup, wherein the third current corresponds to the first current;

comparing the third current to the second current; and

actuating a power-on reset signal in response to the comparison of the third current to the second current, wherein the point during startup at which the power-on reset signal actuates is dependent on the specified ratio between the first current and the second current.

Claim 10 (original): The method of Claim 9, further comprising preventing the first current from being produced at startup until a specified supply voltage is reached.

Claim 11 (original): The method of Claim 9, further comprising providing gain to the power-on reset signal prior to providing the power-on reset signal to subsequent circuitry.

Claim 12 (original): The method of Claim 9, wherein comparing the third current to the second current further comprises comparing the third current to a mirror of the second current.

Claim 13 (original): The method of Claim 9, wherein the second current is substantially equal to the first current multiplied by $1/N$, wherein N is a scaling factor corresponding to a ratio of sizes between the first resistance circuit and the second resistance circuit.

Claim 14 (original): The method of Claim 13, wherein selecting the scaling factor results in a selection of the point during startup at which the power-on reset signal is actuated.

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Claim 15 (currently amended): The method of Claim 9, wherein the specified ratio for selecting a point during startup at which the power-on reset signal is actuated is dependent on a ratio of sizes for transistors.

Claim 16 (currently amended): An apparatus, comprising:

means for producing a first current at startup, wherein the first current flows across a first resistance circuit that is coupled between a first node and a second node;

means for producing a second current at startup, wherein the second current flows across a second resistance circuit that is coupled between the first node and a third node and the second current corresponds to the first current according to a specified ratio;

means for producing a third current at startup, wherein the third current corresponds to the first current;

means for comparing the third current to the second current; and

means for actuating a power-on reset signal in response to the comparison of the third current to the second current, wherein the point during startup at which the power-on reset signal actuates is dependent on the specified ratio between the first current and the second current.

Claim 17 (original): The apparatus of Claim 16, further comprising means for preventing the first current from being produced at startup until a specified supply voltage is reached.

Claim 18 (original): The apparatus of Claim 16, further comprising means for providing gain to the power-on reset signal prior to providing the power-on reset signal to subsequent circuitry.

Claim 19 (original): The apparatus of Claim 16, wherein the second current is substantially equal to the first current multiplied by $1/N$, wherein N is a scaling factor corresponding to a ratio of sizes between the first resistance circuit and the second resistance circuit.

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Claim 20 (currently amended): The apparatus of Claim 16, wherein the specified ratio for selecting a point during startup at which the power-on reset signal is actuated is dependent on a ratio of sizes for transistors.